

MATRIX ELEMENTS

GUITAR AMPLIFICATION
MADE IN BRITAIN, HEARD WORLDWIDE



VINTAGE BRITISH
EIGHT HUNDRED

VB-800
FIELD MANUAL



WWW.MATRIXAMPLIFICATION.COM

Thank You

Congratulations on the purchase of your new Matrix Elements product.

Matrix amplifiers are the result of many decades of experience in the design of exceptionally robust and reliable amplifiers.

They are designed to breathe life into your sound, by controlling your speakers with exacting authority through the uncompromising delivery of clean, undistorted power, from a package which is smaller and lighter than you might expect for the performance it delivers.

This manual will help you to get the most from your amplifier. For maximum benefit, it is recommended that all instructions and warnings are carefully read. Also be sure to read the notices regarding correct wiring of output connectors as this impacts the operation of the amplifier.

For warranty service, please retain your receipt and all packaging that comes with the amplifier, as it has been specifically designed to transport the amplifier safely.

Unpacking

Please unpack and inspect your new amplifier for any damage that may have occurred during transit. If damage is found, notify the carrier immediately.

Note: PLEASE RETAIN ALL FACTORY PACKAGING FOR ANY FUTURE POSTAL TRANSIT.

CAUTION:

OBSERVE ALL SAFETY AND USAGE INSTRUCTIONS TO AVOID POSSIBLE DAMAGE TO EQUIPMENT AND EXPOSURE TO HAZARDS. THIS SYMBOL UNIVERSALLY FLAGS CAUTION NOTICES

LETHAL VOLTAGES PRESENT AT SPEAKER, CABLE AND AMPLIFIER TERMINALS; ENSURE ALL WIRING IS SAFE AND CORRECT BEFORE USE. THIS SYMBOL ALSO UNIVERSALLY FLAGS ELECTRICAL HAZARDS

DO NOT OPEN UNIT; LEAVE ALL INTERNAL SERVICE OPERATIONS TO A QUALIFIED TECHNICIAN. THIS PRODUCT IS CAPABLE OF PRODUCING SOUND PRESSURE LEVELS WHICH MAY DAMAGE HEARING. THE USER IS RESPONSIBLE FOR EXPOSURE LEVELS AND USE OF HEARING PROTECTION.

OPERATING ENVIRONMENT:

The amplifier is designed for use in environments which protect it from rain, unusually high air humidity and temperature.

Place on a surface where it cannot be easily dislodged, potentially causing damage to the unit or injury to a person. Ensure that the location will not expose the amplifier to spillage of liquids/drinks, sprays/vapours or high humidity.

Ensure the amplifier is installed in a place which is not subject to abnormally high temperatures and maintain sufficient ventilation to prevent overheating.

For temporary use outside, apply similar caution; however careful to ensure placement accounts for changing weather conditions and that extreme wind/rain/heat will not find its way to the equipment.

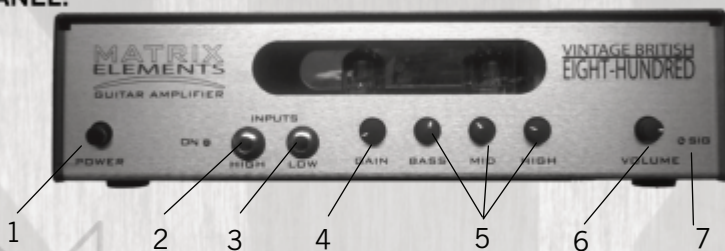
When taking any equipment from a cold environment (unheated storage, vehicles, etc), into a warm one, allow the equipment time to become acclimatised to the ambient temperature, as condensation is likely to form in the amplifier, potentially causing it to malfunction if put into service too soon.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

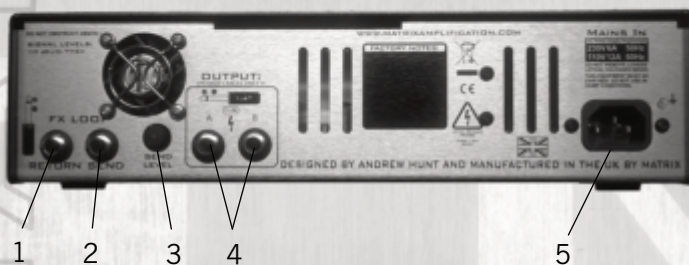
OVERVIEW:

FRONT PANEL:



1. **MAINS POWER SWITCH** - This powers the unit on or off
2. **HIGH INPUT** - Allows signal to pass through all available gain stages for more saturation (Overdrive/Distortion)
3. **LOW INPUT** - Less saturation due to one less gain stage
4. **GAIN CONTROL** - Overdrive/Distortion level - The gain works from left to right increasing in saturation as the control is turned clockwise
5. **TONE CONTROLS** - Each knob controls the different frequencies of the amplifier
6. **VOLUME CONTROL** - Controls the output volume level
7. **SIGNAL INDICATOR** - Gives indication of how much power the amp is providing at a given load. (see page 5)

REAR PANEL:



1. **EFFECTS LOOP RETURN** - Power amplifier input; use a shielded 1/4" cable from the output of your effects (see page 6 for details)
2. **EFFECTS LOOP SEND** - Pre-amplifier output; use a shielded 1/4" cable to connect to your effects (also D.I. out. See page 6 for details)
3. **SEND LEVEL** - Sets the volume level of the pre-amplifier output to match your effects (also D.I. pre-amp volume level. See page 6 for details)
4. **OUTPUTS A/B** - see page 6 for examples of suitable loading.
5. **IEC INLET** - Inlet for power cable (Do not remove the earth ground lug from the cable)

GETTING STARTED AND POWERING UP:

Your VB-800 amplifier comes equipped with a power lead specific for the requirements of your country. Use only the correct lead with the correct rated fuse for your countrys' power requirements. Use of an incorrect lead or fuse rating could lead to damage of your amplifier.

NOTE: Unlike a Valve powered amplifier, it is not necessary to connect a speaker (or load) to the amp whilst it is powered on. Powering on or operation of the amp without a speaker or load attached will NOT damage the amplifier.

1. Connect the supplied mains power lead to the IEC inlet on the rear of the amp.
2. Connect the amplifier to a speaker or cabinet with a good quality speaker cable. Never use a screened (shielded) guitar cable for this as you may damage the cable and the amplifier. Whilst the VB-800 has been designed for use with any standard guitar speaker cabinet available, we recommend use with the Matrix NL series of lightweight cabinets. The VB-800 will accept various impedance cabinets but bear in mind that the total load must NOT exceed 4 ohms. (for more information on impedance see page 5)
3. Making sure that the Main Volume of the amp is turned all the way down, power on the amplifier via the power switch located on the front of the amp. (you may hear a slight "thump" as the unit is powered on. This is perfectly normal)
4. Connect a guitar or suitable instrument to the front of the amplifier using either the High or Low inputs.
5. Adjust the controls of the amp to a required level and steadily increase the main volume until a sufficient level is achieved.

NOTE: The signal light next to the main volume gives an indication of how much power the amplifier is outputting at a given impedance. Typically the light will start illuminating (blinking) at 12.5% (-9db) of the amplifiers total power. For a 4 ohm load this equates to approximately 50 watts output. For an 8 ohm load attached, 35 watts and for a 16 ohm load, 20 watts. When the signal light stays on solidly, this equates to 25% of the amplifiers total power so for a 4 ohm load, that is 105 watts, for an 8 ohm load, 75 watts and for a 16 ohm load, 40 watts. Using this is a useful guide to avoiding possible damage to your speakers.

FEATURES:

The VB-800 has a few extra features that make it a versatile amp for use in the home studio or even as a backup amp or tube flavoured power amp.

EFFECTS SEND/DI OUT:

The VB-800s effects send can also double as a DI out. It sends a signal from the preamp section, of which the level can be controlled with the send level located next to it. (This also controls the level of signal going to your effects if you use it that way) Lots of amps have this kind of Line Out but the beauty of the VB-800 is that you don't have to connect a speaker to the main outputs meaning you can record quietly if needs be. The signal isn't speaker simulated so you'll need to run it into either a cab sim on your DAW or in your favourite multi-fx to get the best tone - and without the neighbours calling the noise police!

EFFECTS RETURN/POWER AMP IN:

The effects return also doubles as an input to the power section of the amp. This is useful if you at any point you require a neutral power amp section for modellers or other preamps you may wish to use.

LOW GAIN INPUT:

Using this input on the front of the amp disables one gain stage from the preamp section giving a less overdriven sound. This could be used as a tube buffer stage when running into modelling or multi-fx units to give a richer sound. Adjust the gain to a low setting to avoid excess distortion characteristics. Experiment with also running the output of your modeller into the input at a low gain to give a non neutral power amp with tone controls.

OUTPUT EXAMPLES:

NB: THE AMP WILL ACCEPT ANY LOAD UP TO A COMBINED MINIMUM OF 4 OHM.

So some examples of what the VB-800 will happily accept are:

- x1 4 ohm cab (total 4 ohms),
- x2 8 ohm cabs (total 4 ohms),
- x2 16 ohm cabs (total 8 ohms).

The VB-800 will also happily accept non standard impedance and mismatched loads.

ie x1 8 ohm cab and x1 16 ohm cab (total aprox 6 ohms).

This gives the user maximum flexibility to use their favourite sounding cabs.

For the ultimate in lightweight powerful rigs, we recommend the NeoLight series of lightweight cabs from Matrix Elements for use with the VB-800.

EXAMPLE SETTINGS:

There's no right and wrong settings to use, it's all down to your individual taste. The tone controls have a wide coverage so dialling in tones you like should be easy. If it sounds good, go with it.

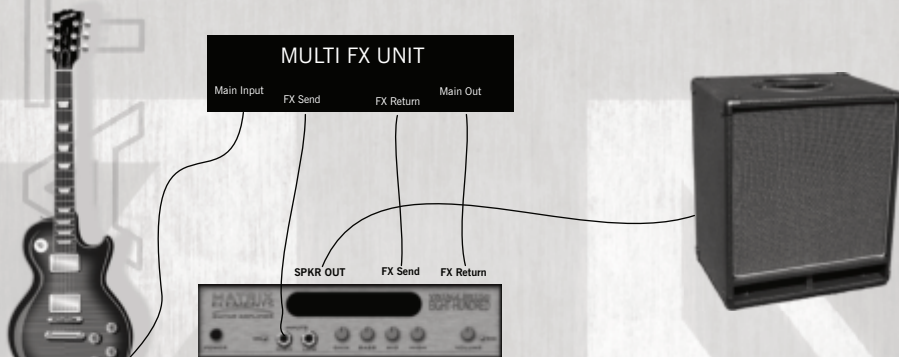
CONNECTIONS:

Listed below are some of the standard ways in which you may want to hook up your VB-800.

Standard: Guitar → Wah → OD → High Gain input of VB-800. FX Send → Delay input → Delay output to VB-800 FX return. VB-800 speaker outs → Cab (remember to use FX send level to control the level to your pedals)

Tube Buffer: Guitar → Low Gain input of VB-800 (gain level set low) → VB-800 FX Send → Input of Modeller or FX loop of modeller

4CM: (4 Cable Method): Guitar → Main input of modeller/Multi FX → Modeller FX loop send → Input of VB-800 (low or high to taste) → VB-800 FX Send → Modeller FX Loop Return → Modeller main Out → VB-800 FX Return. VB-800 Speaker Outs → Cab



This method allows the positioning of gain inducing stompoxes before the VB-800s preamp and time based effects in the VB-800s loop via the modeller/multi FXs loop.

Recording: Guitar → Fx (Wah, OD etc) → VB-800 FX send → DAW. Use cab sim software either in your DAW or before your DAW. (Remember to use the FX send level to control the signal to your DAW)

CARE AND MAINTENENCE:

Your Matrix VB-800 should give you many years of trouble free service if operated correctly and looked after. Pre-amp tubes do wear down though and as such are only covered in the VB-800's warranty for 90 days from purchase, guaranteed to be free from defect.

The VB-800 comes equipped with x2 ECC83/12AX7 pre-amp tubes manufactured by JJ Electronics. We recommend replacing them with the same type or same manufacturer for best results.

As stated earlier in the manual, care must be taken when connecting the speaker outputs to a suitable cabinet. Always use good quality speaker leads and make sure the cab(s) you are connecting to is/are in mono operational mode. Linking the outputs on the VB-800 together either directly or through plugging into a cab input and a cab link output will damage the power section and invalidates the warranty. Care in particular must be taken with Orange cabs, which feature unmarked sockets on the rear of their cabs, one is an input, the other used for daisy chaining other cabs to. If unsure, refer to the cab manufacturers manual.

The VB-800 may be cleaned with a soft lint free damp (not wet) cloth. A mild spray polish such as that used for guitars is acceptable so long as it has no abraasive properties.

Contact Us

Matrix is a company that prides itself on customer feedback and interaction. We like to hear from our customers with any suggestions they have to help us continually improve our service. You are very welcome to share your experience with us by contacting:

support@matrixamplification.com

We also love sharing our players experience and promoting them where we can. Any pictures, videos featuring Matrix products or a good old fashioned thumbs up can be posted on our social media.

<https://www.facebook.com/MatrixAmplification>

We're also around to offer any help or advice as best we can if you run into any problems or have a question, no matter how trivial. We aim to get back to you within 24 hours as bear in mind we're in the UK and there may be a time difference. Again, contact us at:

support@matrixamplification.com

Thank you from the Matrix Team!

LIMITED 2 YEAR WARRANTY INFORMATION:

Matrix Elements warrants this Matrix Vintage British VB-800 for a period of 2 years from date of purchase to be free of defects in materials and workmanship under normal conditions and usage. This warranty is transferable but original proof of purchase date is needed if any claim is to be made on the warranty. Any products found to be defective within the applicable period will be repaired or replaced at the discretion of Matrix Amplification Inc. without any charge provided that;

- (1) the product was not misused, abused, improperly maintained, or repaired by any person not authorized by Matrix Amplification Inc.
- (2) the failure resulted from a defect in material or workmanship and was not damaged due to use other than its intended use;
- (3) the product was not used under abnormal, excessive, or unusual operating conditions or suffered abuse.
- (4) the product is promptly delivered prepaid to the original place of purchase or to manufacturer together with proof of purchase within the applicable period.

Limitations and exclusions

We will not warrant items which we deem to have been misused, damaged due to incorrect connection, neglected or items exhibiting normal wear and tear. Tubes we will warrant for 90 days from date of purchase to be free from defect and workmanship. We will not warrant consequential damage to other products resulting from the incorrect operation or misuse of the item.

Your statutory rights are not affected

CE Declaration:

Issuers Name and Address:

Andrew Hunt MATRIX AMPLIFICATION LIMITED, 32 Dewsland Park Road, Newport, South Wales. United Kingdom. NP20 4EF

Products:

VB-800 Vintage British Amplifier

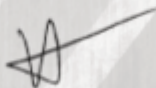
Equipment Type:

Commercial Audio Amplifiers

Safety Standard:

AMD1: 2005 and IEC 60065: 2001 7th Ed. EMC Standards: EN 61000-4-2:2001 EN 61000-4-3:2006 EN 61000-4-4:2007 EN 61000-4-5:2006 EN 61000-4-6:2006 EN 61000-4-11:2001 EN 55103-1:1997 EN 55103-1:1997 EN 55103-2:1997 EN 61000-3-3:2008 EN 61000-3-2:2005 and AMD1: 2008 EN 55022:2006

Safety Requirements - Audio Video and Similar Electronic Apparatus. Electrostatic Discharge Immunity (Environment E2-Criteria B, 4k V Contact, 8k V Air Discharge). Radiated, Radio-Frequency, Electromagnetic Immunity (Environment E2, criteria A). Electrical Fast Transient/Burst Immunity (Criteria B). Surge Immunity (Criteria B). Immunity to Conducted Disturbances Induced by Radio-Frequency Fields (Criteria A). Voltage Dips, Short Interruptions and Voltage Variation. Electromagnetic Compatibility - Product Family Standard for Audio, Video, Audio-Visual and Entertainment Lighting Control Apparatus for Professional Use, Part 1: Emissions. Magnetic Field Emissions-Annex A @ 10 cm and 20 cm. Electromagnetic Compatibility - Product Family Standard for Audio, Video, Audio-Visual and Entertainment Lighting Control Apparatus for Professional Use, Part 2: Immunity. Limits for Harmonic Current Emissions (equipment input current less than or equal to 16 A per phase). Limits and Methods of Measurement of Radio Disturbance Characteristics of ITE: Radiated, Class B Limits; Conducted, Class A. Limitation of Voltage Fluctuations and Flicker in Low-Voltage Supply Systems Rated Current less than or equal to 16A. I certify that the product identified above conforms to the requirements of the EMC Council Directive 89/336/EEC as amended by 92/31/EEC, and the Low Voltage Directive 73/23/EES as amended by 93/68/EEC.

Signature:

Andrew Hunt, Managing Director. Date of Issue: 04/02/2014

Technical Specs:

Number of Channels:

1

Pre-Amp section:

x2 ECC83/12AX7 valves

Tone Controls:

Passive (Bass, Mid, High)

Power Section:

MosFet powered delivering

@ 16 ohms: 150W

@ 8 ohms: 300W

@ 4 Ohms: 420W

Dimemnsions:

304mm x 185mm x 80mm (wxdxh)

11.8" x 7.09" x 3.15" (wxdxh)

Weight:

1.8kg / 4lbs

Supply Voltage:

110v/230v +/- 15%

Average Supply Current:

5A/2.5A (Full Load 110/240v)

Mains Connector:

10A IEC

Input Impedance:

1M ohm

Effects Send:

3K ohm

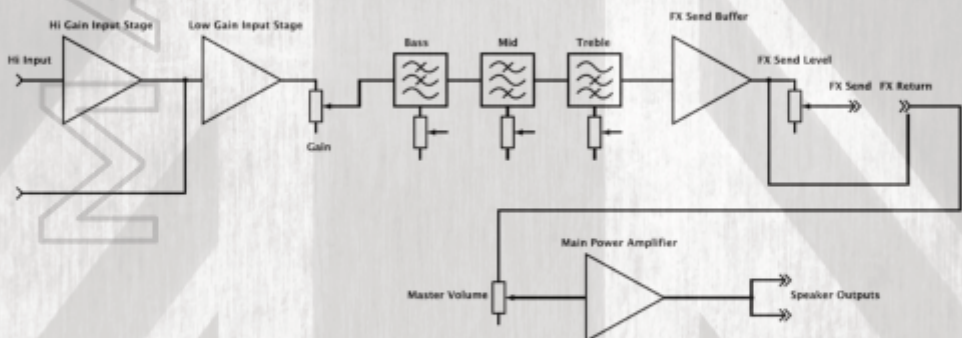
Effects Return:

10K ohm

Effects Send Level:

0v - 1v (0 to +6db)

SIGNAL FLOW SCHEMATIC



VB-800

VINTAGE BRITISH

HEAVYWEIGHT TONE WITHOUT THE HEAVY WEIGHT

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MATRIX AMPLIFICATION, UNIT 1B, TECHWAYS, WONASTOW ROAD INDUSTRIAL ESTATE,
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